

**CLAIMS**

1. A method for monitoring and analysing a paper production process, in which the paper production process includes, as  
5 sub-processes:

a wet end, including

- stock preparation
- a head box
- a wire section, and

10 a dry end, including

- a press section, and
- a dryer section,

and in which method

a large number of variables are measured from the  
15 process, also including electro-chemical measurements in the wet end, and

with the aid of these variables, a fingerprint according to a good process situation, relative to runnability, is defined and then stored in a memory,

20 the stored fingerprints are compared with fingerprints obtained in a normal process situation,

on the basis of the comparison, an index of the difference, displayed graphically to the user, between the recorded good situation and the momentary process situation is  
25 defined,

characterized in that the definition according to a good process situation is made separately in several sub-processes, thus creating a deviation index for each sub-process, to be displayed to the user.

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2. A method according to Claim 1, characterized in that a runnability index, depicting the runnability of the entire paper machine, is further formed from the indices of the sub-processes.

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3. A method according to Claim 1 or 2, characterized in that a quality index, depicting the quality of the paper being produced, is also formed for the user.

5 4. A method according to any of Claims 1 - 3, characterized in that at least the following deviation indices are formed for the user:

- a deviation index depicting the properties of the mass used in the process,
- 10 - an index depicting the operation of the head box, and
- an index depicting the operation of the wire section, and
- an index depicting the operation of the press section.

5. A method according to any of Claims 1 - 4, characterized in  
15 that deviation indices of at least two consecutive sub-processes are formed for the user.

6. A method, according to Claim 3, in a paper machine, characterized in that wet-end electrochemical measurements, for  
20 depicting printability and/or the permanence of ink/filler, are taken into account in the quality index.

7. A method, according to any of Claims 1 - 6, using a neural network, characterized in that the system is used under remote  
25 control.